PERIODICAL ROOM
GENERAL LIBRARY
UNIV. OF MICH.

APR 19 1949

The JOURNAL of GEOGRAPHY

VOLUME XLVIII APRIL, 1949 NUMBER 4

In This Issue

Suggestions for Geography in Wisconsin Schools . . . . . *Clarence W. Olmstead*

How Shall We Train Our Prospective Geography Teachers? . . . . . *Lyda Belthuis*

Mindanao: Key to the Philippines' Future . . . . . *Robert E. Stitt*

College Geography in the Rocky Mountain States . . . . . *Benjamin E. Thomas*

"The Place" of Geography . . . . . *Harry John Osterhart*

The National Council at Work . *Earl B. Shaw*

Editorial Notes and News . . . . . .

Geographical Publications . . . . . .

Published by A. J. NYSTROM & CO., for THE NATIONAL COUNCIL OF GEOGRAPHY TEACHERS
GEORGE J. MILLER, *Editor*

ESSENTIALS OF GEOGRAPHY

By Otis W. Freeman, Eastern Washington College of Education, and H. F. Raup, Kent State University. *McGraw-Hill Series in Geography.* In press

Intended both as an introduction to geography for students who expect to continue work in the field, and as a survey of the subject for those who will limit their instruction to one course. The book describes the principal physical aspects of the earth as a planet, and the varied environments which it provides for the habitat of man. Various human economies and their relationships to the principal natural environments comprise a large share of the book. In addition, the cultural aspects of some phases of human existence have been included, such as political geographical settlements, urban life, etc.

THE EARTH AND ITS RESOURCES

By V. C. Finch, University of Wisconsin, Glenn T. Trewartha, University of Wisconsin, and H. H. Shearer, Westport High School, Kansas City, Mo. Second Edition, 584 pages, $3.20.

Designed primarily for secondary schools, this textbook has been revised and expanded to include recent developments in all phases of physical geography, including meteorology, weather forecasting, aviation, and natural resources. The book offers a comprehensive treatment of physical geography and earth science including elementary astronomy; map study; the atmosphere; landforms; oceans and their shores; and earth resources. A list of visual materials is included.

GEOMORPHOLOGY. An Introduction to the Study of Landscapes

By A. K. Lobeck, Columbia University. 731 pages, $6.00.

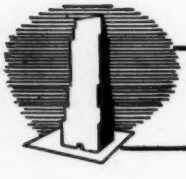
This well known text in the fundamental principles of geomorphology covers Rocks and Structures, Weathering, Underground Water, Streams, Alpine Glaciation, Continental Glaciation, Waves, Wind, Organisms, Costal Plains, Plains and Plateaus, Dome Mountains, Block Mountains, Folded Mountains, Complex Mountains, Volcanoes, and Meteor Craters. An unusually large number of striking photographs of outstanding quality and variety has been introduced to put before the student an actual image of the features described.

GENERAL CARTOGRAPHY

By Erwin Raisz, Institute of Geographical Exploration, Harvard University. *McGraw-Hill Series in Geography.* Second edition, 348 pages, $6.00

Originally published a decade ago, this was the first American textbook to present the subject matter in a form expressly designed to meet the needs of the college student of geography. As before, simplicity is the keynote of the book, and every effort has been made to treat map making as a geographical science in clear, understandable terms, with a minimum of mathematics. The book has been thoroughly revised in the light of the many changes in cartography brought about by the demands and exigencies of the Second World War.

Send for copies on approval



McGRAW-HILL BOOK COMPANY, INC.

330 WEST 42ND STREET, NEW YORK 18, N. Y.

Mention the JOURNAL—It Assures Service

The JOURNAL *of* GEOGRAPHY

CONTENTS FOR APRIL, 1949

Suggestions for Geography in Wisconsin Schools. By Clarence W. Olmstead 133

Dr. Olmstead is Assistant Professor of Geography and Education at the University of Wisconsin and consultant to the Statewide Social Studies Committee of the Wisconsin Cooperative Education Planning Program. While Chief of the Map Intelligence Section in London, during the war, he had an excellent opportunity to study the status and trends of geography in the educational institutions of Great Britain and Germany.

How Shall We Train Our Prospective Geography Teachers? By Lyda Belthuis 143

Dr. Belthuis is Assistant Professor of Geography at the Duluth Branch of the University of Minnesota. At one time Dr. Belthuis taught geography and history in Burlington, Iowa and prepared a course of study for use in the grade schools of that city. She plans to spend the coming summer doing field work in Australia and New Zealand.

Mindanao: Key to the Philippines' Future. By Robert E. Stitt 150

Mr. Stitt served, during the war, as a fighter pilot with the Marine Corps in the Central Pacific. He became interested in the future of Mindanao and plans to enter business there. His education at Colgate was interrupted by the war but was resumed upon his return from service.

College Geography in the Rocky Mountain States. By Benjamin E. Thomas 160

Dr. Thomas is an Instructor in the University of California at Los Angeles and formerly taught in the Biarritz American University in France.

"The Place" of Geography. By Harry John Osterhart 171

Mr. Osterhart is an Instructor in Geography at the Chicago Teachers College.

The National Council at Work. By Earl B. Shaw 174

Editorial Notes and News 174

Geographical Publications 176

Contents of the JOURNAL are indexed regularly in the *Educational Index to Periodicals.*

Authors alone are responsible for opinions and statements in the JOURNAL.

Industrial and Commercial Geography - Third Edition

J. RUSSELL SMITH and M. OGDEN PHILLIPS

"This is an excellent book. It contains a wealth of information usually not dealt with in a book on economic geography. I think it should be very useful in several types of geographic courses, such as those dealing with trade and transportation, as well as straight economic courses."

—P. R. Griess, The Pennsylvania State College

". . . one of the best texts I have ever seen in the industrial geography field. Its treatment of industries is as complete and as understandable as the university instructor could desire."

—Thomas Timothy Murphy, University of Notre Dame

1946, 978 pages, $5.00

HENRY HOLT AND COMPANY 257 Fourth Avenue, New York 10

The JOURNAL *of* GEOGRAPHY

GEORGE J. MILLER, *Editor*

THOMAS F. BARTON, *Assistant Editor*

Indiana University, Bloomington, Ind.

Published monthly except June, July and August

PUBLICATION OFFICES: 450-454 AHNAIP STREET, MENASHA, WISCONSIN

Business Correspondence, Membership Dues, and Subscriptions may be sent to Publication office or to

A. J. NYSTROM AND COMPANY
PUBLISHERS, JOURNAL OF GEOGRAPHY
3333 ELSTON AVENUE, CHICAGO 18

Entered as second-class matter January 15, 1919 at the post office of Menasha, Wisconsin under the Act of March 3, 1879.

Tell Advertisers You Saw It in the JOURNAL

The JOURNAL *of* GEOGRAPHY

Copyright, 1949, by the National Council of Geography Teachers

VOLUME XLVIII APRIL, 1949 NUMBER 4

SUGGESTIONS FOR GEOGRAPHY IN WISCONSIN SCHOOLS

CLARENCE W. OLMSTEAD
University of Wisconsin

The military and political struggles of the second world war, like those of the first, have brought increased American concern for world affairs and greater attention to the study of geography. Since the cessation of major hostilities, many JOURNAL contributors have cited the interest in and the need for better instruction in geography, especially at the high school level.[1] Fewer have been the citations of real progress toward meeting these needs.[2]

High school administrators and curriculum committees who may become convinced of the value of geographic offerings, still face serious problems. What kind of geography shall be taught? Who is qualified to teach it? What materials are available? How can it be fitted into an overcrowded curriculum? Related to these problems is a trend begun several decades ago and apparently gaining momentum: the inclusion of geography in the social studies section of the school curriculum.

[1] Straw, H. Thompson: Geography Reconverts, JOURNAL OF GEOGRAPHY, 45, 1946: 352-359.

Atwood, Wallace W.: The New Meaning of Geography in World Education, ibid., 46, 1947: 11-15.

Van Cleef, Eugene: World Events and Their Implications in the Geography Curriculum, ibid., 46, 1947: 91-96.

James, Preston E.: Developments in the Field of Geography and Their Implications for the Geography Curriculum, ibid., 46, 1947: 221-226.

Shawkey, Ada M.: Contributions of High School Geography to Education for Citizenship, ibid., 46, 1947: 257-263.

[2] Lathrop, H. O.: Geography for the High School—A Bulletin, JOURNAL OF GEOGRAPHY, 46, 1947: 16-18.

Phillips, Mary Viola: Problems and Experiences in Teaching Geography to High School Seniors, 46, 1947: 182-191.

Miller, Rex C.: High School Geography in Nebraska, ibid., 47, 1948: 8-17.

THE WISCONSIN COOPERATIVE EDUCATION PLANNING PROGRAM

The Wisconsin Cooperative Education Planning Program was initiated in 1944 to analyze, evaluate and improve the curriculum of Wisconsin schools. The program is being sponsored jointly by the Wisconsin Education Association and the Wisconsin State Department of Public Instruction. It is being directed by a Curriculum Guiding Committee with a Coordinator and staff. This committee, appointed by tne two sponsoring groups, includes teachers, supervisors and administrators from various types of schools in many sections of the state. Under its general supervision, statewide committees for each of the separate curriculum areas (e.g., language arts, social studies, health education) coordinate the work of individual teachers and local teacher groups thruout the state. It is upon the work of these practicing teachers, supervisors and administrators that the success of the whole program is predicated. The function of the machinery described above is only to encourage and coordinate their contributions.

In November, 1947, the Social Studies Committee issued a bulletin summarizing its thinking and, ostensibly, that of Wisconsin social studies teachers.[3] Included are a brief statement of purposes of the social studies and a list of effective classroom procedures. The major portion of the publication is devoted to suggestions for a twelve-year social studies program. Since the suggestions seem to indicate or corroborate an important trend, they should be of interest to geographers and geography teachers outside Wisconsin. The purpose of the sequence suggestions should be kept in mind. As stated in the publication, "The sequence and suggestions offered herewith are not to be taken as a pattern around which the state program is expected to crystallize. Rather, the Bulletin is offered as a help to teachers who, singly and in groups, are working for the improvement of their own social studies programs. It should also help make possible better teaching by eliminating the unplanned accretions and duplications which for years have been responsible for confusion in the program. If the Bulletin can promote and stimulate critical thinking and planning, it will serve its most important purposes."[4]

[3] Scope and Sequence of the Social Studies Program, Bulletin No. 14, Wisconsin Cooperative Education Planning Program, issued by John Callahan, State Superintendent, Madison, November 1947. 75 pp.

[4] Ibid, p. 3.

GEOGRAPHY IN KINDERGARTEN THRU GRADE SEVEN

The Committee's brief suggestions for kindergarten thru grade seven are no departure from the sequence in use in perhaps a majority of schools in the United States. In keeping with the heimatkunde method advocated by Ritter and Pestalozzi and brought to this country in the middle of the last century by Horace Mann, Arnold Guyot and others, the central theme for these first eight school years is the ever-expanding horizon of the child from home and school to the far regions of the world.

In the primary grades, the various social studies are fused in successive explorations of school, family, neighborhood and community. In the following four years, geography serves as the core of the social studies program. The suggestions for grade four depart somewhat from the common practice of plunging children unprepared into type studies of far off lands such as the "hot, dry Nile" or "hot, wet Congo" regions. Instead, it is suggested that the child's horizon continue to expand thru a study of his own state. If the situation makes it desirable, this study can serve as a springboard for an introduction to similar peoples and regions in other parts of the world. Suggestions for these parallel themes are presented in the bulletin as follows:

Fourth Grade Level

HOW AND WHERE DID DIFFERENT KINDS OF COMMUNITIES DEVELOP?

WISCONSIN	WORLD
1. How did the Indians live in the early Wisconsin communities?	1. Why do some communities still live as Wisconsin Indians once did? (Hunting, fishing, and nomadic peoples.)
2. Why and how did people from other lands build new communities in Wisconsin?	2. Why do some communities live today much as the early Wisconsin settlers once did?
3. How did the different kinds of farming communities in Wisconsin begin and change?	3. In what ways are other farming communities much like those in Wisconsin?
4. How have communities made a living from the forests in Wisconsin?	4. How do other communities in the world use their forests?
5. How do Wisconsin mining communities contribute to and depend upon communities outside our state?	5. How do people in other mining communities live and contribute toward Wisconsin communities?
6. How do communities in Wisconsin provide recreation for people?	6. How do communities in other parts of the world make use of their scenic and recreational resources?
7. Why have some Wisconsin communities become makers and traders of goods?	7. How do communities in other lands live largely by making and trading goods?

8. How do the different kinds of Wisconsin communities depend upon each other and upon communities in other states and countries?

The theme of the expanding social and geographic horizon is continued thru grade seven with the following general problems suggested:

Grade 5. How can we better know and understand our neighbors in the United States and Canada?
Grade 6. How can we learn more about Europe and Asia and the relationships that bind us together?
Grade 7. How can we and the people of Latin America, Africa, Australia and the Pacific Islands work together for a better world?

Geography in Grades Eight Thru Twelve

The Committee suggestions provide for no central theme in grades eight thru twelve. Rather, since the separate social studies outnumber the five years available for teaching them, a series of alternative suggestions is offered.

The eleventh and twelfth years respectively, are reserved for the usual American history and problems courses. Some attempt has been made to make the latter course broad enough to include national and international as well as individual (personal) problems. Included as an appendix in the bulletin is a suggested outline for a unit on Fundamentals of Our National Security, to be taught either in the eleventh or twelfth year. It provides for an analysis of the geographic structure of our national power and of our relation to other powers.

To geographers, the most significant feature of the Wisconsin bulletin is the suggestion of a year of world geography in the high school, either as part of a two-year sequence with world history, or as a separate course. This innovation indicates no lessening evaluation of the understandings contributed by the more commonly scheduled history and civics courses. Rather, it seems to indicate a realization that the traditional three-fold (grades five, eight and eleven) exposure to American history can be strengthened by the better organization of the history and by the inclusion of geography.

During recent decades the program most commonly in use in grades eight to ten respectively has been American history, civics, and world (European) history. As stated in the bulletin, eighth grade American history owes its place in this sequence to the old 8-4 plan which was a product of the days when the great majority of children went no further than the eighth grade. It was believed

important to have a finishing course in the nation's history before the child left school. The "finishing courses" now come in the eleventh and twelfth years. Therefore, the Wisconsin committee suggests a study of community living (incorporating significant concepts from the more common civics course) in the eighth grade, replacing American history unless a particular school feels the latter is needed as a finishing course. This leaves grades nine and ten open for world history and geography, either as an integrated two-year sequence or as separate courses, suggested respectively by the committee as alternatives.

TWO YEAR SEQUENCE IN WORLD HISTORY AND GEOGRAPHY[5]

The theme suggested for the first eight years of the child's venture into the social studies is understanding of the social environment within which he lives, beginning with the home and school and continuing until he has been introduced to the major segments of the globe. By the beginning of the ninth year, the committee believes, the child should have acquired the maturity, desire and need to visualize and understand the world and its peoples in terms of broad, related patterns. Since these world patterns take form in area and thru time, an integrated geographical and historical treatment seems logical. The committee is careful to point out that greater background and scholarship are required to organize facts into accurate and significant patterns than to teach the facts per se. Consequently, it is warned that such an integrated course hardly should be attempted by a teacher trained in only one of the two fields.

The introductory part of the suggested course provides for a study of broad areal patterns and cultural developments. To what extent the history and geography themes can be integrated in this phase would depend upon individual teaching situations. A brief outline of the introduction follows:

[5] Terms relating to the organization of materials for teaching can be very confusing. Fusion is used here in the sense defined by Wesley (Wesley, E. B.: *Teaching the Social Studies*, D. C. Heath and Company, Boston, 1942). It refers to an organization in which subject fields such as geography or history are unrecognizable as such. The Wisconsin Committee's suggested program thru grade three would seem to fit this category. The suggested two year sequence in world history and geography for grades nine and ten, however, definitely is not intended to be such a fused organization. Wesley possibly would call it an integrated program, altho better terminology might be the related teaching of geography and history. The thought of both geographer and historian members of the committee is that each of the subjects has distinct contributions to make in the way of techniques and in ways of thinking. They believe, however, that it may be possible and worthwhile to make related use of both techniques in the attempt to understand a given segment of the world and its society.

Geography

I. The unequal distribution of people over the earth

A. Numbers, densities, distribution patterns

1. The three great clusters of dense population: the Far East; Western Europe; Eastern United States and Canada

B. Factors in the distribution of population

1. Physical

a. World pattern of climates
b. World pattern of vegetation
c. World pattern of soils
d. Distribution of land and water
e. Distribution of major land forms
f. Distribution of mineral and other resources

2. Cultural

a. Components of culture
b. Ways by which culture spreads over area and during time
c. Cultural patterns
d. Cultural regions

History

II. The development and spread of culture over the earth and the resulting phenomena as groups and nations develop

A. The foundations of Oriental culture

B. Pre-European culture in the Americas, Africa, and Australia

C. The Foundations of our Western Civilization

D. The rise of nations and the resulting struggles; the European and world balance of power

E. The spread of western civilization and its contacts with other cultures

F. The development and spread of the Industrial Revolution

G. The foundations of freedom and justice for the individual; English, French, and Russian revolutions

H. Problems of war and peace

The major part of the course would be devoted to area studies. In each of the regions chosen for study, it is suggested that an attempt be made to analyze the historical development and present significance of political, social and economic institutions and of regional characteristics and relationships. How were the resource potentialities of the region utilized by the particular culture group? What is the present status of this culture-resource (man-land) relationship? How and why does it vary from place to place within the region? How does it affect the behavior and world relationships of the nation or group?

The following areas are suggested for study, altho it is pointed out that complete world coverage is perhaps neither possible nor desirable:

Anglo-America
The Mediterranian Region
Western Europe
Eastern Europe
The Near East
The Far East
Africa
Latin America

The suggestions for a study of Britain, within the Western Europe area, are representative of those outlined in the bulletin for the various areas:

Britain—The British people utilized human and natural resources thru many centuries to develop their present system of responsible self-government, to build a world empire, and to achieve a dominant position in world trade and world politics. They are now engaged in a struggle to rebuild their economic strength and to maintain themselves as a world power.

a. Peopling of the British Isles
b. Development of resource potentialities
   (1) Character and distribution of resources
   (2) Development of agriculture
   (3) Development of industry
   (4) Regional differentiation
c. Developing the basic freedoms and the principles of responsible self-government
d. Building an empire and world power
   (1) Resource bases
   (2) Historical development—from Empire to Commonwealth of Nations
e. Current problems of maintaining national strength and world position
   (1) People (numbers, distribution, population trends), land and resources
   (2) World relationships and responsibilities.

EVALUATION OF THE WISCONSIN PROGRAM

The purpose here is not to present but to invite evaluation of the Wisconsin suggestions for geography in the high school. There would seem to be at least three possible areas of objection: (1) that of geographers against mixing geography with or losing it among the other social studies, as well as against more or less neglect of physical geography; (2) objection of teachers because of the lack of materials suitable for carrying out such integrated world and area studies; and (3) objection of administrators because of the lack of personnel trained to teach such a course.

Objection of Geographers

Perhaps it cannot be assumed that university and other research geographers are or should be even remotely interested in the pre-college curriculum. The present status of geography in that curriculum, especially in the high school years, would seem to indicate that such interest may not in the past have been very real. Geographic research can not concern itself actively with problems in the teaching of school subjects. However, if certain correct and stimulating understandings of geography are not gained in pre-college years, what may be the effect upon the recruiting of future geographic researchers? Further, tens of thousands of citi-

zens annually complete their formal education with little understanding of or interest in that ninety per cent of the world's people who exist beyond their view but with whom they must work out their destiny. Should this be of concern to mature geographers?

In the past century, the school curriculum has expanded along with the expansion of knowledge. Each newly developing field of knowledge has tended to demand representation in the curriculum. In addition, the schools have accepted the responsibility, once entrusted to the home or to chance, for training in health, vocations and the arts. As a result there is intense and increasing competition for the child's time during the last four to six years of his school period. Except for a few years at the turn of the century when the influence of William Morris Davis was powerful among educators as well as geographers, geography has had relatively little success in this competition.

The educator's answer to the dilemma of too many school subjects in too little school time is integration of the subjects. Such integration is a *fait accompli* at the elementary, a growing movement at the high school, and a significant trend at the college level.[6]

Whether or not integration at the high school level is good or bad for geography seems not to be of primary significance, first because geographers hardly could prevent it without the danger of eliminating the subject from high schools altogether, and second because what is at stake is not geography but the education of citizens. It is not difficult to prove that geography, in the form of one or more independent high school courses, can stand on its own as a worth-while contributor to that education. But such cases also may be proved for economics, sociology and other areas. What is essential is the worth-while contribution. Can the contribution be made in a carefully planned, well-taught integrated course in world patterns and area studies?

The Wisconsin committee suggests such a course within the social studies (with the alternative of independent courses in geography and history, respectively). The purpose of the course is not to train scientists but to educate citizens. Two of the most obvious shortcomings of contemporary citizens seem to be the inability: (1) adequately to evaluate, and conservatively to distribute and utilize resources, and (2) to live peaceably and constructively

[6] See articles by Bengston, Jones, Wilson and others in Journal of Geography, Vol. 47, April, 1948.

together. Fundamentally these seem to be complex regional or inter-regional problems intricately tied up with historical developments. If this is correct, educational processes need to be directed more effectively toward the understanding of resources, including human resources, as they exist both in the moving stream of history and in the changing complex of regions. The Wisconsin outline suggests meeting this need by a preliminary study of world patterns of area and time, followed by analyses of how such patterns, when superimposed, give distinctive character and problems to specific regions.

Objection of Teachers

Teachers may object to such an integrated course because of the apparent lack of suitable teaching materials. An analysis of most such objections reveals "suitable teaching materials" to mean textbook. Perhaps few if any textbooks are available which, used singly, would be suitable. Most integrated social studies texts have been prepared by educators trained in none of the several social studies, or by social scientists trained in only one. A text prepared cooperatively by educator, historian and geographer, with ample help from related fields, would be a valuable experiment.

Educators agree, however, that no high school course should rely for source material upon a single textbook. There are available several commendable high school texts in the separate social studies, particularly history and geography. Further, there is available a staggering amount of book, periodical, pamphlet, map, film, slide and other resource material. Thus, the lack of suitable teaching materials would seem to be only apparent. The real shortcoming more probably is (1) the failure of the school administration to provide materials from those available, or (2) the failure of the teacher, often due to insufficient time or training, to select and utilize such materials.

Objection of School Administrators

A high school administrator, convinced that geography should be added to the curriculum, may well have difficulty in securing an adequately trained teacher. Especially this may be the case if the course be an integrated one. Herein lie two serious dangers. He may decide to forego geography, and the third period of oppor-

tunity for high school geography in this century may have passed.[7] Or he may decide to inaugurate the course under the tutelage of a teacher trained only in history. The attempt might well be so inadequate as to preclude geography forever from any high school in which the administrator, the teacher, the parents or the pupils henceforth should have influence. Might it also possibly turn aside a future Humboldt?[8] The Wisconsin committee is careful to point out that the integrated course can not be successful unless the teacher is trained in the content and techniques of both history and geography.

CONCLUSION

At some stage and in some form, geography is included in most American school curricula. Often it may be presented inadequately at a level where its important concepts cannot effectively be assimilated. Consequently geographers and geography teachers well might give thought to the time and manner of presentation. But, in spite of a current increased popular interest in geography, geographers can not legislate their subject into the school curriculum. They may advise but not direct professional educators. The logical point of attack, therefore, would seem to be in the training of teachers. First, and preferably before the current interest in geography begins to wane, a few well trained geography teachers are needed to inaugurate new courses, especially in high schools, and to take over faltering old ones. One such high school course, effectively and enthusiastically taught, will do more for the future of geography, aside from its contribution to citizens, than a score of such articles as this can hope to do. Secondly, every teacher of every school subject needs to have had some insight into geography, perhaps by means of an integrated college course; every teacher of the social studies needs to have received thoro ground-

[7] Following the Report of the Committee of Ten in 1894 many high schools instituted courses in physical geography, physiography and, later, so-called commercial geography. Most of these soon lost out in the competition for school time, perhaps largely due to their specialized treatment of a single aspect of geography, often by teachers unable to impart an understanding of the whole of geography and its possible contribution to education. During and immediately following each of the two world wars there has been apparent increased interest in geography. In the current case, geographers should not rely upon international tension to maintain such interest indefinitely.

[8] Possibly poor teaching is more stimulating to such minds than the ordinary standard of "adequate" teaching. Inspirational teaching is another matter. Among the graduate geography students at the University of Wisconsin in a recent year, four had come from the same relatively small high school.

ing in the subject. A social studies teacher should be not a purveyor of vague generalities but a teacher of geography, history, economics, sociology and anthropology. This is a difficult assignment, but if it were even reasonably well accomplished, one would need have little worry as to the mechanics or results of an integrated high school course in world history and geography. Both would be taught adequately, whether simultaneously or one at a time.

HOW SHALL WE TRAIN OUR PROSPECTIVE GEOGRAPHY TEACHERS?

LYDA BELTHUIS
University of Minnesota, Duluth Branch

In attempting to answer this question, one may start by defining geography as a study of distributions, a description and explanation of things on the earth's surface. This subject may be approached by either systematic or regional study. In systematic geography we treat each element as a unit: studying climates, soils, population distributions, agricultural patterns, and others. Regional geography deals with the correlation of these elements within specific regions and special sub-divisions such as industrial or urban units.

Geographers will readily agree that a student needs to learn both physical and human systematic geography. This will give him a background of material on climates, soils, etc. and will help him to understand the culture patterns of man and why he lives as he does. With this as a start, he can better comprehend world regions and be ready to look at these in smaller units.

In terms of courses, a student's needs for teaching might be suggested as follows: good introductory courses in both the physical and cultural phases of the subject, some work in economic and political geography, regional studies of various continents, and a course in conservation of natural resources. One might suggest additional work in geology, climatology, plant geography, and soils. All these are necessary and worthwhile, but from such course work our prospective teacher probably will not be getting all of the information he needs, such as a good understanding of maps, the most important tools of a geographer.

One is certainly aware of the fact that many people who are teaching geography in the public schools have had far fewer courses than those listed above. They may have had only descriptive regional classes and therefore are limited to information from these and from the textbooks they are teaching. This leads neither to good presentation on the part of the teacher nor thoro understanding by the pupil.

The following may serve as an example of inadequate instruction. At a meeting of sixth grade teachers in a small city system the geography course of study was being discussed. The writer mentioned that in each of the representative regions studied, there should be some discussion about why these differed from each other and mentioned latitude and altitude as limiting factors. One elderly lady, now deceased, who had been teaching for forty years or more, said with alarm "altitude and latitude," and then went on to say that she and others had been teaching states and capitals with facts about each region without trying to give explanations as to why things were as they were. She was a very sincere and conscientious worker, and there are many like her who had been trying to do their best with the knowledge they had, but had not been teaching real geography.

Such uninformed people should not be teaching. We must help those already in the field, and see to it that those going into education have the basic background material necessary to understand the work for themselves and be able to answer questions from their students. The writer believes that much aid can be given in a course designed for prospective teachers to be taken during the last term or semester in college. This will present new material, clarify faulty notions, and also serve as a review. It might contain the topics listed below which are being used by the author in such a course at the Duluth Branch of the University of Minnesota.

Outline of Course

I. Map study (16 class hours)
  A. Comparison of globes and maps
  B. Map scales
    1. What they are
    2. Kinds of scales
    3. How to determine a map scale
    4. Map differences resulting from scale differences
  C. Legends
    1. Purpose
    2. How to make them

D. Coordinates
  1. Need for them
  2. Use of them
E. Projections
  1. General construction
    a. Cylindrical
    b. Conic
    c. Azimuthal
  2. General characteristics
    a. Equal area
    b. Conformality
    c. Other
  3 Specific projections
    a. Mercator
    b. Goode's Homolosine
    c. Vander Grinten
    d. Others
F. Study of maps
  1. Wall size
  2. International Map of World
  3. Coastline, harbor, river maps
  4. Topographic sheets
  5. City maps
  6. Aerial photos
G. Map making
  1. Map content
  2. Equipment for map making
  3. Methods of copying
    a. Enlarging
    b. Reduction
  4. Maps to make
    a. Economic
    b. Historical
    c. Field

II. Source of visual aid materials (3 class hours)
  A. Maps, globes, atlases
  B. Projectors, slides, strip film, movies
  C. Pictures
  D. Choice and evaluation of above

III. Field Work (2 hours)
  A. What to do at various levels
  B. How to plan for it
  C. Use and construction of field maps

IV. Levels of Learning (4 class hours)
  A. Content at various levels
  B. Vocabulary
  C. Units
  D. Information sources
    1. For textbooks, workbooks
    2. For other reference material

V. Reading by student—(list at end of this paper)

VI. Use of check sheet
  A. To determine class needs
  B. In study of class problems—example: requests of two classes (14 class hours)
    1. Time, seasons, length of day
    2. Insolation, radiation, cooling rates, temperature conversions—F° to C°.
    3. Pressures, winds, cloud types
    4. Convectional precipitation, cyclonic storms, orographic lifting
    5. Climatic types, relationships of soil, climate, and vegetation patterns
    6. Tectonic and erosive forces
    7. Geological stages—youth, maturity, old age
    8. Study of common rock types
VII. Individual conferences (time depends on individuals and size of class)
VIII. Evaluation
  A. Class tests
  B. Student report on learnings
  C. Report year later to indicate
    1. How course helped
    2. Suggestions for improvement

The requests of the classes mentioned in part VI of the outline above were primarily for explanation of physical geography topics. The time was so limited in both cases that the human aspects such as population studies, cultural patterns, agricultural systems, and industrial developments could not be discussed. These phases of the subject are also some which teachers cannot interpret because they are not systematically explained in descriptive courses and therefore need to be emphasized elsewhere.

The purposes in presenting such a course are two-fold. First, to give the student information such as that listed in parts I-IV of the preceding outline which he is not likely to have obtained in general courses. Second, to add to each individual's background of geographic knowledge. This is done in part by discussing topics from the check sheet which the majority of the students wish to have presented or reviewed. Problems and questions of individual students are discussed in class as well as in private conferences. In this way both individual and class needs are met. Both of these procedures are instrumental in giving practical information to a student who wishes to teach geography. The classes of twelve and fifteen, taught by the author in the spring and summer of 1948, were small enough for much class discussion and questions. This offering during the summer term is adapted to meet the needs of teachers already in the field.

A course such as described very briefly above is certainly not a "cure-all" for the deficiencies of our public school geography teachers, but is a step toward helping prospective teachers and

those already in the field to help themselves in situations that occur in their geography teaching.

Readings

Map Study—selected from THE JOURNAL OF GEOGRAPHY

Repass, Frances, "An Experiment in Teaching Current Geography," November, 1937, pp. 321-324.

Dudley, Elizabeth, "An Approach to Map Study," December, 1937, pp. 354-356.

Jessop, Grace, "A Map for Diagnostic Purposes," March, 1938, pp. 112-115.

Forsyth, Elaine, "Map Reading"

Unit I—October, 1943, pp. 249-257.

Unit II and III—November, 1943, pp. 287-297.

Unit IV—December, 1943, pp. 327-332.

Unit V—January, 1944, pp. 13-17.

Unit VI—February, 1944, pp. 71-75.

Unit VII—March, 1944, pp. 92-96.

Unit VIII—April, 1944, pp. 140-144.

Testing Skills, May, 1944, pp. 168-174.

Svec, Melvina, "The Use of USGS Maps at the High School Level," December, 1944, pp. 343-350.

McDavitt, Neva, "Map Pre-tests: Devices to Discover the Ability of Pupils to Interpret Maps," May, 1945, pp. 207-209.

Fuller, Kenneth, "Developing Map Reading Skills for Global Emphasis," September, 1943, pp. 216-220.

Renner, George T. "Educational Revision of Wall Maps," January, 1941, pp. 13-19.

Other Suggested References on Maps

Wesley, E. B., *Teaching the Social Studies,* pp. 351-359, D. C. Heath Co., 1942.

Raisz, Erwin, *General Cartography,* McGraw-Hill, 1938.

Lobeck, A. K., and Tellington, W., *Military Maps and Air Photographs,* McGraw-Hill, 1944.

Greenwood, David, *Down to Earth, Mapping for Everybody,* Holiday House, 1944.

Dietz, Charles H., and Adams, Oscar S., *Elements of Map Projection,* U. S. Government Printing Office,, 1945.

Field Work—readings from JOURNAL OF GEOGRAPHY

Riggs, Margaret, "Geography Field Work in the Small City," January, 1938, pp. 28-31.

Eisen, Edna, "Field Work in Junior and Senior High School," February, 1938, pp. 75-77.

Crewson, Walter, "Field Work in Secondary School Geography," April, 1941, pp. 153-156.

Other

A Bibliography of Field Studies in Schools and Colleges, Bureau of Field Studies, New Jersey State Teachers College, Upper Montclair, N.J., 1947.

Teaching Aids—readings from JOURNAL OF GEOGRAPHY

Garland, John, "The Superior School Giant Globe," December, 1942, pp. 328-331.

Martin, Neil, "Equipping a High School Geography Room," September, 1939, pp. 226-232.

Meighen, Mary, "Training Children to Use Their Geography Textbooks Efficiently," November, 1939, pp. 330-332.

Kusch, Monica, "Geography, A Laboratory Subject," May, 1940, pp. 203-206.

Ungashick, Jane, "The Use of Current Events in Geography," November, 1940, pp. 315-319.

General—readings from JOURNAL OF GEOGRAPHY

Eisen, Edna, "Making the Teaching of Geography Effective," April, 1937, pp. 132-139.

Cutshall, Alden, "Worthwhile High School Geography," September, 1944, pp. 223-228.

Willcockson, Mary, "Some Misconceptions of Fifth Grade Children in Geography," September, 1944, pp. 229-235.

Eisen, Edna, "Responsibility of the Geography Teacher in the Upper Grades," November, 1947, pp. 313-318.

Burnham, Archer, "Place Names in Fourth Grade Geography," March, 1939, pp. 117-120.

Nolen, Luella, "Check Lists for Use by Teacher and Pupil in Evaluation of Geographic Tools," May, 1939, pp. 205-208.

Gluck, Harold, "Using Pupil Abilities and Interests in Geography Teaching," December, 1941, pp. 344-349.

Whitaker, J. R., "The Place of Geography in the Social Studies: From the Viewpoint of Conservation Education," January, 1943, pp. 12-21.

Whittlesey, Derwent, "The Place of Geography in the Social Studies for Orientation in a World of Changing National Boundaries," January, 1943, pp. 1-6.

Barton, Thomas F., "High School Conservation," March, 1948, pp. 81-92.

Eisen, Edna, "Reading Geography," March, 1948, pp. 107-109.

Other References

Logan, Marguerite, *A Guide to the Teaching of the New Geography*, Edwards Bros., Ann Arbor, 1941.

Other Suggested Readings on Various Topics from JOURNAL OF GEOGRAPHY

1938 (Vol. XXXVII)

Wittkop, Norman, "Methods in Motivating Geography Teaching," May, pp. 205-207.

Baker, Emily, "Diagnosing Children's Ability to Use Maps," September, pp. 227-231.

James, Linnie, "Junior High School Geography," October, pp. 269-274.

1939 (Vol. XXXVIII)

Willcuts, Virginia, "A Unit in Sixth Grade Geography," March, pp. 115-117.

Renner, George T., "Teaching Conservation of Natural Resources, September, pp. 245-251.

Burnham, Arthur, "A Basic Reference List of Geographic Terms for Fourth Grade Geography," October, pp. 283-288.

Lucus, W. C., "Making Geography Teaching Click," December, pp. 349-354.

1940 (Vol. XXXIX)

Crewson, Walter, "The Local Community as a Resource for Teaching High School Geography," March, pp. 105-109.

Bozarth, Ruth O., "Map Making in the Snow," November, pp. 325-326.

1941 (Vol. XXXX)

Symonds, Clare, "Tackling the Erosion Problem in High School Geography Classes," January, pp. 30-33.

Burgess, Alvin, "The Use of Maps in Developing Geographic Personalities," February, pp. 57-64.

Vayette, Kenneth, "A Study of Children's Responses to Geography Pictures," October, pp. 262-273.

1942 (Vol. XXXXI)

Williams, Hadwen H., "Inexpensive or Free Materials for Geography Classes," March, pp. 112-114.

Lobeck, A. K., "Some Geographical Terms and Their English Relatives," April, pp. 130-137.

Raisz, Erwin, "Draw Your Own Blackboard Maps," October, pp. 262-264.

Yates, Everett, "Teaching Aids in Geography," October, pp. 265-272.

Fuller, Kenneth, "War Maps: Materials for Improving Map Reading Skills in the Junior High School," November, pp. 296-302.

Yates, Everett, "How I Teach New England," December, pp. 321-328.

1943 (Vol. XXXXII)

Hartley, W. H., "Illustrative Material for Conservation Education. IV Objects, Specimens, Models," February, pp. 59-61.

Day, Pauline, "Making Geographic Symbols for Rivers Signify Reality," April, pp. 145-148.

Culbert, James, "Some Objectives in Teaching the Geography of Latin America," September, pp. 230-232.

1944 (Vol. XXXXIII)

Whitaker, J. R., "Design for High School Geography," November, pp. 281-296.

1945 (Vol. XXXXIV)

Chew, Margaret, "Map Making as a Junior High Elective," March, pp. 85-90.

Schauer, Virginia, "Teaching Children to Read the Geography Textbook," October, pp. 279-287.

Anderzohn, Mamie L., "What Is in the Mile Behind an Inch on a Map or Globe," October, pp. 288-295.

1946 (Vol. XXXXV)

Anderzohn, Mamie, "Writing Our Own Map Language," January, pp. 35-38.

Gaughan, Mary, "High School Geography Course in Flux," March, pp. 109-113.

Baker, Emily, "Children's Questions and Their Implications for Planning the Curriculum," October, p. 296—A book review.

Barton, Thomas, "Teaching Soils in the Lower Grades," November, pp. 309-316.

1947 (Vol. XXXXVI)

Smith, J. Russell, "What Shall the Geography Teacher Teach in the Elementary School," March, pp. 101-108.

Johnson, Eleanor V., "Exploring the Geographic Environment with Ten and Eleven Year Olds," March, pp. 109-114.

Phillips, Mary V., "Problems and Experiences in Teaching Geography to High School Seniors," May, pp. 182-191.

Reitz, William W., "Teaching Resource Conservation Thru Geography," September, pp. 227-234.

References Used for Physical Geography

Davis, Darrell, *The Earth and Man*, Macmillan, 1947.

Finch, V., and Trewartha, G., *Elements of Geography*, McGraw-Hill, 1942.

Longwell, Chester, Knopf, Adolph, and Flint, Richard, *A Textbook of Geology, Part I Physical Geology*. J. Wiley, 1944.

Lobeck, A. K., *Geomorphology*, McGraw-Hill, 1939.

Weather For Aircrew Trainees, Air Forces Manual, No. 6, published by Headquarters, Army Air Forces, 1945.

MINDANAO: KEY TO THE PHILIPPINES' FUTURE

ROBERT E. STITT
Colgate University
1948

FOREWORD

A small department of geography has difficulty in offering a varied program. One method is to offer courses in alternate years. Even this, however, does not meet the individual needs of all students. Consequently a "Special Problems" course is of value for these special cases. Under this arrangement at Colgate, there was offered such a special problems course to one of the students, an exG.I., completing his college education, whose needs were unique. He had been engaged after the war in the import-export business in Southeast Asia and felt a need for a geographic background. This was furnished by a reading course coupled with once-a-week discussions. As the course progressed his interests focused on Mindanao. Special instruction was then given in finding sources of geographic knowledge. Subsequently he prepared this paper, which is of value, therefore, not only for the information contained therein but as an example of the type of specialized instruction which should be fostered.

SHANNON MCCUNE

INTRODUCTION

From the fall of the Philippines in the spring of 1942 to its retaking in 1945 the American people became increasingly aware of the Philippine Islands, an area previously located in their minds as only "somewhere on the other side of the world." This traditional ignorance existed long before the United States became a world power. President McKinley himself confessed at the time our country acquired the Philippines in 1898, ". . . I could not have told where those darned islands were within 2000 miles."

Altho this condition has, to a great degree, been rectified, it has by no means led to any deep American understanding. During my stay in the Philippines in 1947, for example, a friend in the United States requested that I locate some equipment which he wished to purchase. He was not sure of its location, but since he knew it to be in the Philippines he assumed it to be around Manila. Actually, the equipment was finally discovered over 350 miles south of there. This is typical of the average American who is quite surprised when informed that to "look around the Philippines" takes somewhat longer than a few days, and that there is more to the Archipelago than just Manila and some small supporting agricultural islands. It is news to him that Mindanao, the second largest island of the Philippines, is separated by an airline distance of over 600 miles from the capital city.

POPULATION

Not only is Mindanao separated from Manila by a geographic gulf, but to a certain degree by a cultural and religious gulf as well. Its 2,000,000 inhabitants are a kaleidoscopic mixture of pagan aborigines, migrants from the Visayan islands, and Moros. The pagans are few in number and live under such a primitive culture that they are of little importance to the future of the island. The Visayan colonists are the most recent arrivals who left the overpopulated regions in the central Philippines to seek a future in Mindanao. These Christian Filipinos now make up the bulk of the population of Mindanao. They are concentrated in the most northern provinces, namely Agusan, Surigao, Bukidon, Oriental Misamis and Occidental Misamis. Tho the Visayans are more recent arrivals to the island than the 400,000 Moros living there, by weight of numbers they exert more power in the island's affairs than the Moro minority. The Moros, who are well known for their outstanding leaders, live mainly in the provinces of Lanao, Cotabato, Sulu and Zamboanga and therefore control only a minority of the provinces.

The Moros are now divided into six important sub-groups altho their ancestors came to the island as Mohammedan adventurers around 1490 A.D. The adventurers were generally Arab-Malay nobles of the royal families of Borneo and Malacca. To this day many of the leading families proudly trace their unbroken lineage back to the 1490's. One such family, with whom I have had many enjoyable relations, is the Piang family. The Piangs have been for many years leaders in the province of Cotabato, both under the old caste system and now in the new democratic regime. Datu Gumbay Piang, now a member of the House of Representatives of the Philippine Republic, and his brother, Datu Ugalingen Piang, one-time governor of Cotabato province, have a strong spirit of leadership and desire to keep their people abreast of the times. During the thirty-seven months of Japanese occupation these people showed their leadership by causing the Japanese a never-ending series of problems thru waging guerrilla warfare. Love of the island is, however, not limited to the Moros alone.

CLIMATE

Mindanao, little known tho it is, is considered by many inhabitants of Manila, Filipinos and Americans alike, as the garden spot

of the Archipelago. A friend in Manila once told me, "If Mindanao were located where Santa Catalina is, so many Californians would flock to it that they'd sink it." Altho my friend's enthusiasm is understandable and endorsed by many other people, it is quite probable that the mountainous character and equatorial climate of

Fig. 1. Map of Mindanao's Political Subdivisions and Mineral Resources.
Drawn by Lillian P. Johnson

the island (it is between 6° and 8° north latitude) might moderate the hypothetical migration.

The average monthly temperatures of the lowlands of Mindanao vary from 78° to 83°, not excessively hot in comparison to our own midwestern summers. Even tho one can not escape the

heat in Mindanao by putting degrees of latitude between him and the equator, the same aim may be accomplished by an ascent from sea level. In Mindanao this is easily done since various mountains are accessible at no great distance from any point. The highest of these is Mount Apo which reaches an altitude of 9,690 feet. The ascent to the thinner air not only brings cooler temperature but an escape from the ever-present high humidity which is quite oppressive to most Americans.

This land relief is of primary importance in the consideration of climatic conditions. Not only do the mountains serve as an escape from the equatorial heat but also serve as the determining factor in the two distinct climates of Mindanao. The Diuata range, a chain of mountains extending south from the Butuan Bay region to the eastern shores of Davao Gulf, is the principal feature in the division of these climates. East of this range seasons differ greatly in monthly rainfall; the greatest precipitation occurs during the winter and early spring, the period of the northeast monsoon. The summer is, however, dry in relation. Talacogon in Agusan on the eastern slope of the mountains, for example, records 120 inches of rainfall annually. The heaviest precipitation occurs during December and January. The climatic chart shows the monthly regime for Surigao, a similar east-coast station.

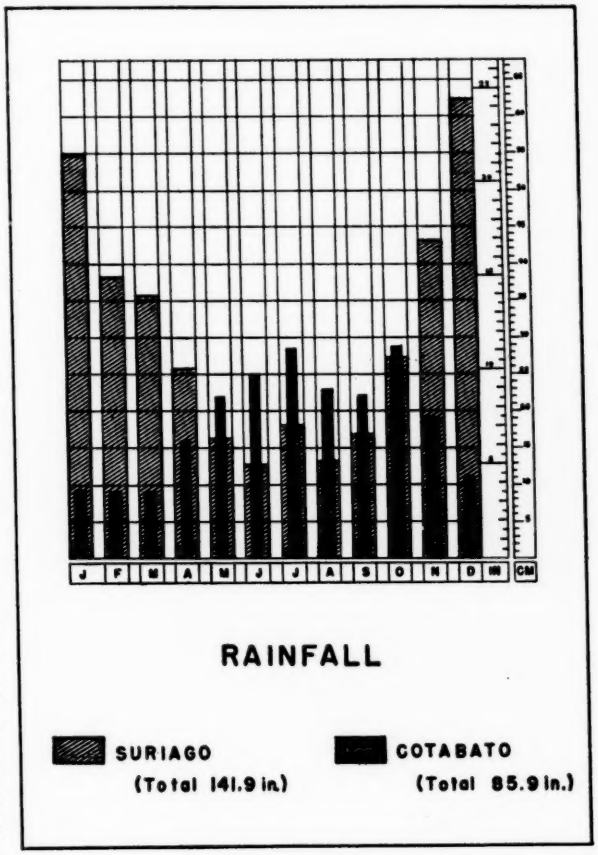


FIG. 2. Chart of Rainfall Contrasts in Mindanao.

The south and southwest portions of Mindanao are never without rainfall since the Diuata range is not high enough to block completely the moisture-laden air of the northeast monsoon in the winter. The southwestern monsoon of the opposite season reaches Mindanao after having crossed Borneo and other islands of the Netherlands East Indies. This, coupled with convectional activity, results in moderate rainfall during the summer. Thus it is unusual if less than three or more than eleven inches is recorded in one month. The heaviest precipitation consistently takes place during the summer months. Characteristically, Pikit in central Cotabato has an annual rainfall of 72 inches distributed rather evenly thruout the year. The chart of Cotabato is typical of the region.

The Mindanao climate has one distinct advantage which even Florida would like to boast—it is essentially free from typhoons, which are storms similar to the West Indies hurricanes. Of the typhoons which come from the Pacific, most frequently between August and November, only 1 per cent ever touch Mindanao, and then only the northern provinces.

FORESTS

With the climate such as this it is natural that 82 per cent of the island's 24,327,200 acres is a rich tropical rain forest. The Bureau of Forestry has designated only 10,183,000 acres to remain as permanent forest thus establishing a margin of some 14,000,000 acres for various commercial purposes. Practically all this forest is public domain, less than 1 per cent being private lands; lumbering rights are obtained from the Bureau of Forestry. Typical of tropical rain forests there is a great mixture of different species of trees and the most common commercial ones are the lauan, tanguile, and apitong. All of these woods are very much in demand in the United States by cabinet makers, furniture and boat manufacturers. The red lauan is familiar to Americans under its common name, Philippine mahogany. Trees of this variety grow to heights of over 200 feet and are frequently eight to ten feet in diameter. Inasmuch as no branches generally appear below 150 feet they yield beautiful straight grained planks. A desirable hardwood similar to walnut is the famed narra—a highly prized, beautifully grained wood used for table tops and similar large flat surfaces where an exceptional grain can be displayed and a high finish is desired. Philippine ebony, correctly called apitong, is another

wood used for many of the same purposes as narra. It is, however, usually somewhat less spectacular and of a closer grain. Molave, known in the islands as the "king of woods" is extremely hard and resistant to weather, termites, etc. Used for doors, pilings, even railroad ties, it seems to evidence no disintegration, and there are many instances of its being exposed to the elements for periods exceeding 200 years without any noticeable ill effects.

There are, in addition, many valuable by-products of the forest such as tanning barks and cinnamon barks. Even the undergrowth, of which a large part is rattan, has a valuable commercial market for lawn furniture and informal furnishings. Aside from the actual vegetation the floor of the forest has numerous deposits of gum copal and elemi which are used extensively in the manufacture of fine laquers and varnishes. Large numbers of rubber trees have been successfully introduced and cultivated on the island. The Goodyear Rubber Company had 600,000 bud grafted hevea trees producing on a plantation near Zamboanga during the years before the war.

COCONUT

The coconut palm is the forest product which is probably the most important to the economy of this island. It is generally considered, however, in the category of commercial agriculture. There were 561,000 acres of coconut trees under cultivation in 1938, comprising 33.8 per cent of all the cultivated land. From this area 500,365,000 nuts were gathered in that year. Approximately 130,000 short tons of copra plus almost 100,000 gallons of oil were being produced annually during pre-war years. This industry has rebounded from the war with great vigor and is now expanding rapidly. The internal conflicts of the Netherlands East Indies, the greatest pre-war competitor, in addition to the general world demand for fats has stimulated this recovery. Market prices of copra in the United States, exceeding $250.00 per long ton (three times what copra has sold for in the past), brought plantations rapidly back on their feet.

FIBER CROPS

Next in importance to coconut as a commercial crop is the familiar "manila hemp," more correctly called abaca. Altho 79 per cent of the 284,800 acres of abaca is located in Davao province there is some grown in each province of Mindanao. The pre-war

exploitation of this product by the Japanese strongly influenced its rise to a position of importance, occupying 17.1 per cent of the cultivated land area of the island. The Japanese, however, merely gave impetus to the development of the crop around Davao. It is likely that development of the crop would have taken place eventually since the climate and soil of the area are ideal. Davao is not handicapped by the typhoons which blow across the abaca regions of southern Luzon and frequently cause severe damage to the crop there.

Another plant which is grown for its fibers is ramie. Little has been heard of it in the United States as yet altho some experimental work has been carried on. The difficulty of extracting the fibers, which has remained a stumbling block in its development, may soon be solved and open a new market for Mindanao. I have been told by some of the Moros growing it that the fiber qualities make it a competitor in many ways to cotton and similar materials since it is extremely strong and durable and will take dyes effectively.

Subsistence Crops

Rice is the main subsistence crop of Mindanao as it is of most of the other islands of the Archipelago. Palay (rough rice) occupied in 1939 about 450,000 of the 1,663,200 cultivated acres of the island. There is a higher ratio of upland rice to paddy rice cultivation on Mindanao than elsewhere in the islands. This is due largely to the lack of any very dry season in many parts of the island since a dry period is necessary for the harvesting of paddy or lowland rice. The porosity of the coralline soil near the sea coast is another reason why 44 per cent of the rice grown in Mindanao is upland rice. This coralline soil is, however, well adapted to the cultivation of maize. The surplus grown in Mindanao is shipped to the maize-eating people of the Visayan islands each year. There are many other subsistence and commercial crops which thrive in Mindanao but they have not as yet been developed sufficiently to warrant discussion at this time.

Work animals play a vital role in the agricultural economy of Mindanao. An accurate estimate of present-day numbers and distribution is exceedingly difficult. 1938 figures are no criterion for the present time since the losses suffered during the war were extreme, however, they do afford a knowledge of the number of head which have been and can be maintained again on the island. There

were, before the war, 195,800 work animals located on farms; the total number of carabao, however, was 323,900. Besides the work animals there were 280,500 beef cattle being grazed on the interior upland plains of Mindanao which were suitable for this purpose.

FISHING

A survey of the subsistence products and staples of the Philippines would be incomplete without a brief account of the ever-important fishing industry of the islands. Fish are of greater importance to the Philippine people than any other nonagricultural food. The successful Japanese fishing industry of pre-war Mindanao shows the possibilities available in this field. The scope of the operation and the extensive exploitation of the waters around Mindanao speak vividly for the future of such an industry. There were canneries and processing stations located around the island at various points from Davao to Zamboanga. Tuna fishing in Moro Gulf was a year round proposition in direct contrast to the California tuna fishing which is strictly seasonal. The operation has, in the past, been carried on both on the basis of a fresh fish business and for canning, but the innovation of frozen foods will undoubtedly benefit the fishing business greatly. Fortunately, most all the popular known varieties of tuna are abundant in Moro Gulf, but since their habits differ from those in California waters methods of catching them are necessarily different. Many of the Moro groups are essentially seafaring people and would fit well in a project of this sort. Methods which might be instituted would be new to the Moros, but they learn easily and once taught would prove very efficient.

MINERAL RESOURCES

Considerations of the forest, crop, and animal resources of Mindanao up to this point would suggest the support of only a semi-primitive society. A little knowledge of the Moros would dispel this thought, however, since they are famous for their exquisite metal work ranging in diversity from intricately designed brass household articles to the famous steel of the wavey-bladed Moro kris. All of the elements necessary for the manufacture of these items are available locally on the island.

There are, for instance, large deposits of copper existent in commercial quantities and from these the brass and copper art works have been derived for centuries. Altho the gold mines of Mindanao

have not reached the production levels of the mines of northern Luzon they are nevertheless developing rapidly; large reserves indicate the continuation of the industry. Both lode and placer mines have been operated but the placer mining is by far the more common. Gold production in the whole Archipelago in 1940 reached the 75,000,000 peso mark which puts the Philippines above Alaska in annual dollar gold output. The mining industry was one of those most heavily hit by the war and the subsequent post-war rehabilitation has lagged noticeably. One small mine in Mindanao, however, had recovered sufficiently in 1947 to reach a production of 100 tons of ore a day and had accumulated about 100,000 to 150,000 pesos of concentrate.

The discovery of iron ore deposits has never caused the same electrifying excitement as a gold strike. However, when iron ore is discovered in commercial quantities, it is significant for it can be the basis of an entirely new economy. In Mindanao have been found some of the richest iron ore deposits in the Orient. These should in years to come play an extremely important part in the development of a better balanced economy. In the Surigao area the hills are barren and of reddish hue, evidence of the 100,000,000 tons of ore in sight. It is estimated that there are between 500 million and 1 billion tons of ore in this deposit alone. In some places this ore reaches a depth of 90 feet. It is conveniently located for mining operations near navigable harbors and, for the most part, can be dug with power shovels. This is not a low grade ore, it assays at a minimum of 50 per cent iron when dry and contains generally 1 per cent nickel and 2 per cent chrome.

From the point of industrial expansion Mindanao lacks one important resource—coking coal. The coal which is available in most parts of the island in commercial quantities is noncoking bituminous coal, not suitable to an iron and steel industry. There is a large deposit of chrome ore on Dinagat island, located just off the northern regions. Other chrome deposits in various parts of the main island are of unknown size and quality and have not been exploited on a commercial basis.

Geologic conditions indicating oil have been discovered in Cotabato province, but no valuable deposits have been located to date. Intensive investigation has been carried on by the Philippine government in this and other regions of the Archipelago. Oil would, of course, be a great aid to an industrialized Mindanao. There are,

fortunately, large oil producing areas in the nearby Netherlands East Indies. In addition to the many important minerals found in abundance on Mindanao there are some of lesser importance such as sulphur, asbestos, lead, gypsum, and platinum.

The excellent hydroelectric power potential offsets to a degree the deficiency of coal on Mindanao. There are many rivers which when harnessed could produce great quantities of power. The Agus River in the Lake Lanao region, for instance, drops 2,200 feet in 24 miles, a degree which engineering surveys show could produce a minimum of 330,000 h.p.

CONCLUSION

Altho the mountainous topography of Mindanao precludes agricultural economy on a scale like that of our own Mississippi valley or other plain regions, and altho the tropical climate hinders the development of an industrial empire, it does seem that the island is well situated to support an economic system well balanced between agriculture and industry. A favorable export balance should be easily developed and maintained, and with an almost inevitable population increase forecast, the industrial phase of the economy should grow rapidly. Mindanao can play an important part in the development of the Philippines. It will be a frontier for the Filipinos and will absorb overpopulation and provide a vast store of natural resources for growing industries. With each passing year its indispensability should grow in proportion to the advance of the rest of the Archipelago.

BOOKS AND ARTICLES OF VALUE CONCERNING MINDANAO

Cutshall, Alden, "Mineral Resources of the Philippine Islands," *The Scientific Monthly*, April, 1942, pp. 296.

Forbes, W. Cameron, "The Philippine Islands," 1928, Vols. I and II.

Hainsworth, Reginald G. and Moyer, Raymond T., "Agricultural Geography of the Philippine Islands," A Graphic Summary, 1945, pp. 6-62.

Hayden, Joseph R., "The Philippines: A Study in National Development," 1942.

Hibben, Thomas, and Pugh, Mary A., "Economic Development in the Republic of the Philippines," *Foreign Commerce Weekly*, Sept. 13, 1947, pp. 2-4.

Krieger, Herbert W., "Races and Peoples in the Philippines," *The Far Eastern Quarterly*, Vol. IV, No. 2, Feb. 1945, p. 96.

Kuder, Edward M., "The Moros in the Philippines," *The Far Eastern Quarterly*, Vol. IV, No. 2, Feb., 1945, pp. 119-126.

Lasker, Bruno, "Peoples of Southeast Asia," 1945, pp. 52-144.

Pelzer, Karl J., "Pioneer Settlements in the Asiatic Tropics," *American Geographical Society* (Special publication No. 29.) 1945, pp. 81, 84, 113, 114, 127-159, 232-242.

Pelzer, Karl J., "Population and Land Utilization," 1941, pp. 37-38, 127-132.

Pendleton, Robert L., "Land Utilization and Agriculture of Mindanao, Philippine Islands," *The Geographical Review*, Vol. XXXII, No. 2, April, 1942, pp. 180-210.

Philippine Economy in "Liberation Year," *Foreign Commerce Weekly*, April 27, 1946, p. 3, 4.

Pugh, Mary A., "Mindanao, A Stepping-stone to Victory," *Foreign Commerce Weekly*, Sept. 23, 1944, p. 3-6.

Republic of the Philippines: Economic Review of 1946 and Early 1947, *International Reference Service*, Vol. 4, No. 42, August, 1947, pp. 2, 5.

Simpich, Frederick, "Mindanao on the Road to Tokyo," *National Geographic Magazine*, Vol. LXXXVI, No. 5, Nov., 1944, pp. 539-574.

COLLEGE GEOGRAPHY IN THE ROCKY MOUNTAIN STATES

BENJAMIN E. THOMAS
University of California, Los Angeles

College instruction in geography has advanced materially in the Rocky Mountain states* during recent years. A decade ago geography was a rare subject offered in a few of the far western colleges; now it is found in all of the larger schools and in most of the smaller ones. Such a development, of course, is typical of many parts of the nation.

Information for this study was obtained from questionnaires, school catalogs, correspondence with administrators and geography teachers, and, in some cases, by personal visits to colleges.

The eight Rocky Mountain states contain 65 institutions of higher learning which, for convenience, may be separated into universities, smaller degree-granting colleges, and junior colleges.

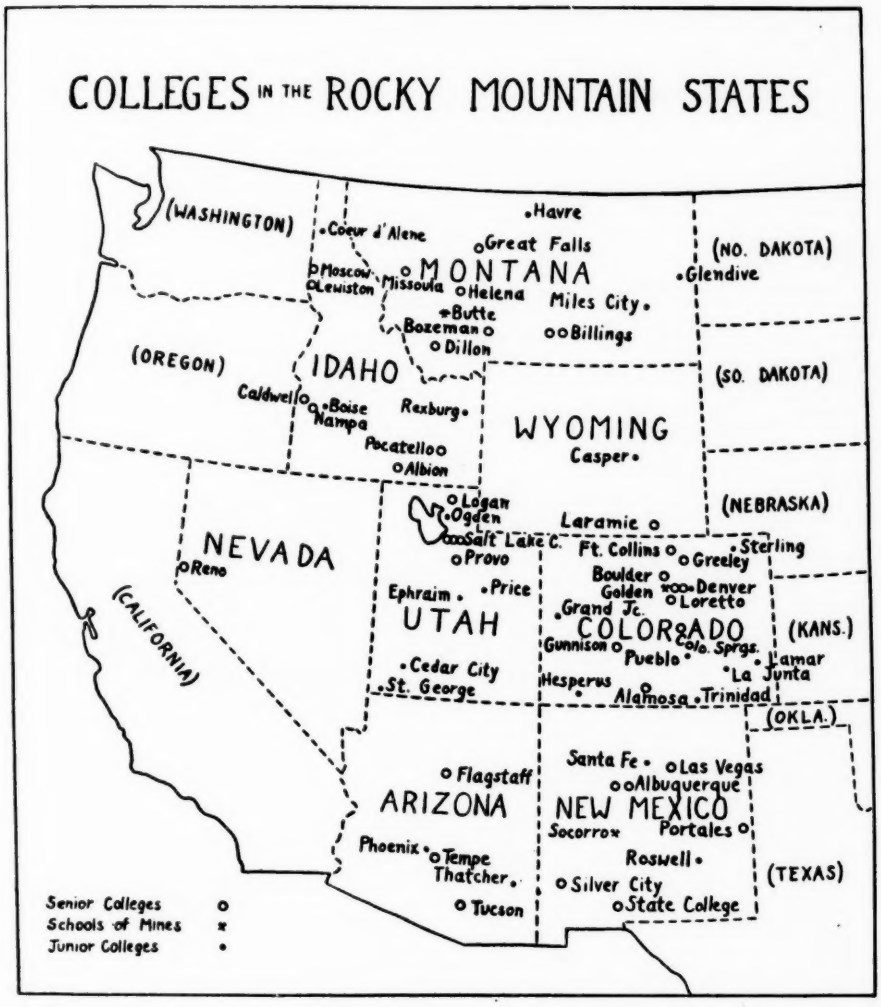
THE UNIVERSITIES

There are fifteen universities. Each contains a liberal arts college and a number of additional schools or colleges, such as engineering, education, law, agriculture, and graduate studies. These institutions are generally much larger than the other colleges of the region. Three universities (Colorado, Utah, and Denver) have each had, in recent years, between 8,000 and 10,000 students in residence; two small universities (Nevada and New Mexico A. & M.) have about 2,000 students. The remaining ten universities have approximate enrollments of 4,000 students each.

Some geography is taught at each of these universities. A

* Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming.

classification by the total number of quarter or semester courses offered is given below. The departments which offer the geography courses are also indicated.



Universities With More Than Ten Geography Courses

Brigham Young University, Provo, Utah. (Geol.-Geog. Dept.)
University of Colorado, Boulder, Colorado. (Geog.-Geol.-Mineral. Dept.)
University of Denver, Denver, Colorado. (Geography Dept.)
University of Utah, Salt Lake City, Utah. (Geography Dept.)

Each of these institutions has several geographers, and the number of courses given is sufficient for a full major in the sub-

ject. Furthermore, graduate work is offered. Additions to the curricula are being considered in all cases, and in 1948-49 an average of about 20 geography courses will be given by each institution. It may be noted that each school has all of its geography collected together under one department. The department at the University of Utah is a new one, established during the 1947-48 school year.

Universities With Seven to Nine Geography Courses

New Mexico A. & M. College, State College, New Mexico. (Geog.-Geol. Dept.)
University of Idaho, Moscow, Idaho. (Geol.-Geog. Dept.)

The above schools have recently expanded geography instruction to the extent that approximately a minor is now offered. Each employs a geographer, is considering additional courses, and plans a major in geography for the near future. Courses are unified under a single department.

Universities With Four to Six Geography Courses

Montana State College, Bozeman, Montana. (Geog.-Geol. Dept.)
University of Nevada, Reno, Nevada. (Geol.-Geog. Dept.)
University of New Mexico, Albuquerque, New Mexico. (Anthro. Dept. and Geol. Dept.)
University of Wyoming, Laramie, Wyoming. (College of Educ. and Econ. Dept. and Geol. Dept.)

Each of these universities has a geographer or plans to employ one for 1948-49. The number of geography courses will probably be increased in two cases (Montana State and Nevada) in the near future. Two schools, as of 1947-48, had not collected all geography under a single department with "geography" mentioned in the title. Most of the geography at the University of Wyoming has been given in the College of Education and, at the University of New Mexico, in the Department of Anthropology.

Universities With One to Three Geography Courses

Colorado A. & M. College, Fort Collins, Colorado. (Dept. of Econ., Soc., & Hist.)
*Idaho State College, Pocatello, Idaho. (Geol. Dept. and Bus. Adm. Dept.)
Montana State University, Missoula, Montana. (Geol. Dept.)
University of Arizona, Tucson, Arizona. (Bus. Adm. Dept.)
Utah State Agricultural College, Logan, Utah. (Econ. Dept.)

A common arrangement in these schools is to have a course or two in economic geography under the department of business or

*Formerly the Southern Branch, University of Idaho.

economics, and perhaps a course in general or physical geography in the geology department. One institution (Montana) is considering the addition of new geography courses. For the most part, the economic geography courses are being taught by economists and the other geography courses by geologists. Such a condition may be fairly satisfactory if the instructors in question have had some work in geography, exhibit an active interest in the subject, and take advantage of opportunities for additional study. But in two cases known to the writer, economic geography has been taught by economists who have not even taken the introductory geography which is commonly included in an economics or business course. To reverse the situation, would it be suitable for a state university of several thousand students to employ a geographer with no training in economics to teach a course in economics?

In the development of geography in American universities, departmental changes have often followed a common pattern of three stages. First, a few geography courses are offered in various departments by persons primarily interested and trained in other subjects. Secondly, geography courses are brought together, improved, and increased in number under a department of geography and geology (or, rarely, geography and a subject other than geology) which includes specialists in both fields. And thirdly, geography and geology are established as separate departments. With this sequence in mind, nine (or almost two-thirds) of the fifteen universities of the mountain states are found to be in the second or third stages of development. For the most part, these schools have advanced from the first stage during the last two or three years.

Another method of judging progress in geography is to consider the training of those who teach the subject. Before World War II a number of the Rocky Mountain states had not a single college instructor with a major in geography, even tho geography courses were offered. Now persons with graduate training in geography can be found in universities in every state, and additional geographers are found in smaller colleges and secondary schools.

At this time of writing (April, 1948) there are 28 teachers of geography in the universities of the Rocky Mountain region. The graduate training of these individuals may be summarized as follows:

Training of Geography Teachers in Rocky Mountain Universities

Highest Degree Held	Number of Individuals	
Ph.D. in geography	6	
Candidates for Ph.D. in geography	3	
M.A. or M.S. in geography	6	
Total number of geographers		15
Ph.D. in geology	2	
M.A. or M.S. in geology	3	
Total number of geologists		5
Ph.D. in economics	1	
M.A., M.S., or M.B.A. in business or economics	6	
Total number of economists		7
M.A. in government		1
Grand Total		28

More than half of the instructors (15 out of 28) are primarily trained in geography. Three or four of the other teachers, altho originally trained in geology or economics, have taken work in geography and have developed an active interest in it. It should also be noted that some of the geologists teach physiography or geomorphology—a subject which is properly considered a part of either geology or geography. Therefore, probably more than 20 of the 28 instructors have entirely adequate training, a condition much better than that which formerly prevailed.

The proportion of trained geographers among geography instructors is constantly being increased. A few universities were still seeking geographers for the 1948-49 school year at the time this article was prepared, and no doubt the fall of 1948 will find more individuals with graduate training in geography than is indicated in the table above.

THE COLLEGES

Besides the universities discussed above, the Rocky Mountain states have 26 degree-granting colleges. These schools are much smaller than the universities. Also, the colleges usually offer work in only one or two general fields; they may be classified as teachers colleges, liberal arts colleges, and schools of mines. A few offer graduate work. The largest colleges (Arizona State College at Tempe and Colorado State College of Education) have more than 1,500 students each, and one small college has less than 200 students. The average enrollment for colleges of this type in the region is about 700.

The Teachers Colleges

Half of the colleges (13 out of 26) are primarily teachers colleges, altho many now have liberal arts and business curricula as well. Some offer master's degrees in education and liberal arts. All of these schools have geography, the number of courses ranging from 2 to 14 as shown in the following list.

Teachers Colleges	Approximate number of geography courses, 1948-1949
Adams State College, Alamosa, Colorado	3
Arizona State College, Flagstaff, Arizona	10
Arizona State College, Tempe, Arizona	12
Catholic Teachers College, Albuquerque, New Mexico	3
College of Great Falls, Great Falls, Montana	5
Colorado State College of Education, Greeley, Colorado	14
Eastern Montana State Normal School, Billings, Montana	2
Montana State Normal College, Dillon, Montana	8
New Mexico Highlands University, Las Vegas, New Mexico	3
New Mexico State Teachers College, Silver City, New Mexico	8
Northern Idaho College of Education, Lewiston, Idaho	13
Southern Idaho College of Education, Albion, Idaho	7
Western State College, Gunnison, Colorado	2

Among the teachers colleges from which replies were received, one-third were planning to add additional courses in the near future.

Two or three courses such as Principles of Geography, Economic Geography, Physical Geography, or Teaching of Geography are commonly established first. These are often required courses in teacher training programs. Then, in a second phase, regional courses—and perhaps a course or two in Map Reading, Climatology, or Conservation of Natural Resources—are added to make a minor in geography. The courses may be included as a required part of a major in Social Science or Physical Science. And thirdly, Field Work in Geography, Political Geography, Cartography, Advanced Economic Geography, Geomorphology, and additional regional courses are supplied so that a major is offered that is substantially the equivalent of that offered in a university. About a third of the Rocky Mountain teachers colleges may be found in each of these three stages.

The most common departmental arrangement (5 cases) is for geography to be included with social sciences. However, in three schools geography is in a science department, in two cases under

geology and geography, and in one case geography constitutes a separate department. Two colleges have geography split between two departments (science and social studies, and science and business).

An inclusion of geography with the social studies has the strong advantages that all geography is commonly collected together and that related subjects may benefit from close contact. Disadvantages may be that physical geography is likely to be slighted; equipment such as topographic maps, relief models, and map making supplies may be hard to obtain; and there may be no laboratory courses. These disadvantages may be absent when geography is found with science, or in a geology or geography department. However, the departmental arrangement, in itself, is no assurance of adequate equipment or of good instruction. Administrative policy, academic custom, and the personalities involved are often the most important factors. Since geography is both a physical and a social science it may logically be included with either. A separate department of geography is theoretically ideal, but actually impossible in a college where twenty instructors give courses in forty subjects.

Approximately 16 instructors are conducting geography classes in these teachers colleges. Their training may be summarized as follows:

Ph.D. in Geography	1	
Ph.D. in Geology and Geography	1	
M.A. or M.S. in Geography	3	
Total with degrees in geography		5
Total with degrees in science		3
Total with degrees in social studies		6
Total with degrees in education		2

The number of teachers with majors in geography is increasing. One or two geographers may have been added since the above figures were collected. Also, probably most of those listed with degrees in other subjects have taken a number of courses in geography.

Liberal Arts Colleges

Geography has not advanced as rapidly in the 10 liberal arts colleges as in the universities and teachers colleges, but progress is being made. Most of these privately supported colleges have instituted one or two geography courses during the past few years,

and about half of the colleges are considering additional ones. One college (Eastern New Mexico) established a major in 1947.

Liberal Arts Colleges	Approximate number of geography courses, 1948-1949
Carroll College, Helena, Montana	1
College of Idaho, Caldwell, Idaho	0
College of St. Mary-of-the-Wasatch, Salt Lake City, Utah	2
Colorado College, Colorado Springs, Colorado	0
Eastern New Mexico College, Portales, New Mexico	10
Loretto Heights College, Loretto, Colorado	1
Northwest Nazarene College, Nampa, Idaho	2
Regis College, Denver, Colorado	1
Rocky Mountain College, Billings, Montana	1
Westminster College, Salt Lake City, Utah	0

A geographer is employed by the college that offers a major in a Department of Geology and Geography. In the other schools, Economic Geography is commonly offered by an instructor in business, economics, or social science; or Physical Geography is offered by someone in the geology or science departments.

The Rocky Mountain states contain three schools of mines which offer rigid technical curricula with few liberal arts subjects. No geography is given, nor planned for the near future. The schools are:

Colorado School of Mines, Golden, Colorado
Montana School of Mines, Butte, Montana
New Mexico School of Mines, Socorro, New Mexico

JUNIOR COLLEGES

In these semi-arid states of sparse population and great distances, two-year and three-year colleges are often established in farming, mining, and ranching areas where there are towns with populations of 5,000 to 20,000. Such towns provide a number of high school graduates who are unable or unwilling to travel distances of 50 to 300 miles across mountains and deserts to attend the nearest state college or university. College training of two or more years, rather than just a high school education, is coming to be regarded as the minimum for everyone. Most of these junior colleges are supported by the states, or by the local school districts. Only a few are private schools. The enrollments range from 100 to 1300, with an average of about 500 students. Of the 24 junior colleges, 20 offer courses in geography.

Junior Colleges	Approximate number of geography courses, 1948-1949
Baca-Prowers Junior College, Lamar, Colorado	1
Branch Agricultural College of Utah, Cedar City, Utah	1
Boise Junior College, Boise, Idaho	2
Carbon College, Price, Utah	1
Casper Junior College, Casper, Wyoming	0
Colorado Woman's College, Denver, Colorado	1
Custer County Junior College, Miles City, Montana	0
Dawson County Junior College, Glendive, Montana	1
Dixie Junior College, St. George, Utah	1
Fort Lewis Branch, Colorado A. & M. College, Hesperus, Colorado	1
Gila Junior College, Thatcher, Arizona	1
La Junta Junior College, La Junta, Colorado	1
Mesa College, Grand Junction, Colorado	3
New Mexico Military Institute, Roswell, New Mexico*	3
Northern Montana College, Havre, Montana	3
North Idaho Junior College, Coeur d'Alene, Idaho	1
Phoenix Junior College, Phoenix, Arizona	1
Pueblo Junior College, Pueblo, Colorado	1
Ricks College, Rexburg, Idaho	1
Snow College, Ephraim, Utah	0
St. Michael's College, Santa Fe, New Mexico	1
Sterling Junior College, Sterling, Colorado	0
Trinidad State Junior College, Trinidad, Colorado	3
Weber College, Ogden, Utah	3

Economic Geography is the usual course when only one is given, but in two cases World Geography is the single offering. A half dozen colleges, usually the larger ones, have added another course or two, such as General Geography or Conservation of Natural Resources. The writer would agree that a one semester course in Economic Geography is most in demand and should probably be the only one given in the smaller junior colleges. But in the case of larger schools a standard course including Physical Geography (world patterns of land-forms, climates, soils, and vegetation and their interrelations) in the first semester or quarter followed by Economic Geography (patterns of agriculture, manufacturing, trade, etc., and their relations with each other and with the physical elements) would probably be more desirable. Such a sequence could be a part of the business or liberal arts curricula in many cases and a minimum requirement in geography for ele-

* New Mexico Military Institute is now (1948-49) a four-year college and offers five courses in geography.

mentary teachers. Also, it is the usual prerequisite for upper division geography courses which students may take if they continue at a university. Additional courses for junior colleges might be Climatology, Conservation, Map Reading, or the geography of the state concerned, depending upon student demand and teaching staff.

In these junior colleges, economic geography is usually given by a social studies or business teacher and physical geography by a science teacher. It is hoped that the courses might be brought together under one instructor by having a social studies teacher take additional work in geology, climatology, cartography, etc., so that he might give physical geography also. Or an interested science teacher might take work in regional, economic, and political geography. These suggestions apply especially to the new, growing junior colleges which have added a third year and are on the verge of becoming four-year, degree-granting schools.

SUMMARY

The development of geography in the senior colleges of this region parallels the situation in the country as a whole. The large, well-known state universities such as Michigan, Wisconsin, and California established independent geography departments and gave geography adequate support at a fairly early date. Other universities followed this course, from time to time. Then, during the last half-dozen years, more than a score of the remaining state universities established new geography departments, or greatly expanded the geography portions of Geology-Geography departments. Practically all state universities—in all parts of the country—now have substantial offerings in the subject. State teachers colleges also expanded geography instruction until the subject became a major offering. In the case of privately supported schools, a few, such as Chicago, Clark, and Columbia, developed geography on a firm basis at an early date, but these were not followed by dozens of others. Some, like Harvard, gave half-hearted and hesitant support to a number of geography courses. Others, like Yale and Princeton, introduced the subject but never advanced beyond the stage where a few elementary courses were offered. Only in recent years have a moderate number of private universities shown a tendency to develop fair-sized geography departments. This general situation with reference to state univer-

sities, teachers colleges, and private schools is also found in the Rocky Mountain states.

It is sometimes said that geography will soon be offered in many colleges. The writer believes that the statement should be that geography *is* commonly given by most colleges. In the Rocky Mountain states, where college geography has lagged behind the neighboring Pacific Coast and Middle Western states, it is now difficult to find a college that has no geography. If the schools of mines are excluded, it may be observed that 35 out of the 38 senior colleges have geography, and 20 out of 24 junior colleges offer the subject.

Another method of explaining the position of geography is to compare the total number of instructors and courses for all subjects offered in colleges of the region. On this basis, a first group of subjects—like English, History and Education—rank far above the others; a fair-sized college may have a "large" department with dozens of instructors and scores of courses or sections. A second group, in which "medium" offerings are common, contains economics, French, chemistry, and similar popular subjects. A third group, with "small" offerings, contains geology, philosophy, geography, and other fields. And a fourth category includes less common subjects like Greek, astronomy and Italian, which may have a few courses, or may not be offered at all. Geography at present, for the region as a whole, falls into the third category, as noted above. However, in all of the teachers colleges, and in some of the universities and junior colleges, geography is showing a tendency to become a member of the second group.

The rise of geography in this region should do much to lessen geographical illiteracy among college students in a number of fields. Also, the new curricula at some colleges provide a major that is suitable for either a general education or for professional training in geography. But perhaps the greatest contribution will be in the field of education. Teachers tend to secure their training at local colleges. These institutions now offer instruction in geography, making improved and expanded geography programs on elementary and secondary levels both possible and probable.

"THE PLACE" OF GEOGRAPHY

HARRY JOHN OSTERHART
Chicago Teachers College

The recently published results of the Gallup Poll test on the knowledge most Americans have of the location of countries, states, and cities in their own country, as well as in other countries, is not at all surprising. Nor is the attitude of educators and administrators, as revealed by their comments in a recent edition of the Chicago *Daily News,* surprising, for it is at the door of American education and educators that the blame for this situation must be laid.

American educational systems in general continually tend to minimize the value of the study of geography. Provision is generally made for the study of geography at the elementary level of education but rarely at the secondary level, where it is usually an elective rather than a required course. On the college level geography again is generally an elective course, if taught at all. The lack of interest in the field is also evident by the fact that a government survey made during the war revealed there to be fewer than one thousand qualified geographers in the country. This in itself is sufficient proof of the fact few colleges and universities emphasize geographic study to the extent that majors in the field are prepared for teaching in the field.

This writer's experience in teaching the basic principles of geography during the past five years to over one thousand selected Army Air Corps cadets at the University of Missouri, and to over one thousand prospective teachers at the Chicago Teachers College, forces him to automatically assume that all students reaching the college level have absolutely no previous training in the field whatsoever. One former student, a former chief engineer on a Flying Fortress who had been on twenty-five missions over Hamburg, Germany, seemed to think that New York City was on the European continent. Many students confuse cities like Havana and Savannah, merely because the words sound alike. Many confuse Massachusetts and Tennessee simply because they have the same shape. North Carolina and North Dakota are often interchanged. The easiest way to confuse a student is merely to require him to fill in certain required names on a blank outline map. Such

is usually the experience the college teacher has with college students.

Seemingly two facts then are true:

1. Geographic training at the elementary level today is far below standard, and its value practically lost when the training is not continued at the secondary level.
2. Americans travel and read much but see little and remember less, for otherwise they would know more about the world in which they live, despite the lack of a formal education.

This total lack of geographic knowledge is due entirely to the fact that few people understand the meaning and purpose of geographic study. Thus we have this dispute over the value of place geography training. To any one who does understand geography, place geography is only a tool, as a hammer and saw are tools to a carpenter, and the knowledge of grammar is an essential tool for a teacher of English composition. No geographer maintains that knowing the location of Podunk or Doowaddity is of any particular value. One could know the location of every infinitesimally small stream and hamlet in the world and still know nothing of geography. Geography involves much more than a study in locations. Geography involves much more than the study of the location of places. Geography simply defined is a study of the relationships between earth and man. More specifically, geography has been defined as "that science which consists of a systematic description and interpretation of the distribution of things on the surface of the earth."

Geography, therefore, does deal with where things are on the earth. It does deal with a description of those places, features, and things. Both types of facts, however, can be acquired by travel and the study of travel maps. Generally it is true that those people who travel most know little about the geography of those places they have visited and seen. Knowing where a place is and what it looks like does not make of one a geographer. Geographic knowledge of a place involves not only knowing the answers to the what (description) and where (location) questions but also to the why questions.

Geography is not concerned with isolated facts per se, but involves a study of the relationship between facts—between natural and cultural facts of the whole environment. Geographic study consists then in a study of facts from the fields of astronomy, meteorology, botany, zoology, physics, chemistry, geology, history,

political science, sociology, and many more. But, whereas, the history of a nation may be studied singularly in a course in history, and the facts of chemistry in a course in chemistry, the geographer attempts to correlate all of the facts that he can gather from these individual fields to explain the character of or basis for environmental conditions in any particular area under discussion. His purpose is to show the relation between the facts of the physical and cultural environment so as to better understand the world in which we all live. If we are ever to have a degree of peace in this world it must come thru a better understanding of the peoples of the world, based upon better knowledge.

We can only hope to solve the problems of the world if we know what they are—if we know the geographic conditions under which the Chinese, Japanese, Russians, Germans, Italians, and even Americans live. The geographer has the responsibility of pointing out also that all of the world's problems will not be solved merely because we may be in position to solve some of the economic problems. A geographic knowledge of the countries of the world will be of benefit in solving some of the problems, however. But, before talking about the problems of, and the relationships between China and Japan, or Russia and Germany, or Italy and Yugoslavia, the student must be able to visualize the locational relationships between them. This ability to visualize can come only with repeated studying of maps. *Place geography* as a means to the aforesaid ends has its definite value, and must be considered in that light.

NATIONAL COUNCIL AT WORK

1949 ANNUAL CONFERENCE OF THE NATIONAL COUNCIL OF GEOGRAPHY TEACHERS

The National Council of Geography Teachers has accepted the invitation of Western Reserve University, Kent State University, and Oberlin College to hold the annual conference at Cleveland, November 25 and 26, 1949. Make plans to be there. Headquarters for the meetings will be Hotel Cleveland. Further announcements concerning the annual conference will appear in the May JOURNAL OF GEOGRAPHY.

Miss Cora P. Sletten, former assistant editor of the JOURNAL OF GEOGRAPHY, will represent the National Council of Geography Teachers at the Congress of the International Geographical Union to be held in Lisbon, Portugal, during April of this year.

The Distinguished Service Award is presented by the National Council of Geography Teachers for outstanding service in geographic education. The award carries the highest honor that the organization can bestow. Every member of the National Council has the privilege of nominating a geographer for the award. The nomination must be accompanied by a full statement of the service rendered geographic education by the nominee. Material should be sent to the Chairman of the Committee, Dr. Mary Jo Read, State Teachers College, Milwaukee, 11, Wisconsin. Nominations should reach the chairman by June 1. Other members of the committee, all of whom will be glad to give further information, are: Alison Aitchison, State Teachers College, Cedar Falls, Iowa; Harry C. Lathrop, Illinois State Normal University, Normal, Illinois; George B. Cressey, Syracuse University, Syracuse, New York; J. R. Whitaker, George Peabody College for Teachers, Nashville, Tennessee. The president and secretary of the National Council serve as ex officio and voting members.

Miss Veva Katherine Dean of State Teachers College, East Stroudsburg, Pennsylvania represented the National Council at the Fifty-third Annual Meeting of the American Academy of Political and Social Science in Philadelphia, April 8 and 9.

Miss Lillian Worley has been appointed chairman of the Committee on Geographic Education in the Secondary School. Two others have accepted places on the committee, Miss Ina Robertson of State Teachers College, Valley City, North Dakota and Miss Flora Dutcher, Junior High School, McCook, Nebraska.

Recently I received the Bulletin of the Association of North Dakota Geographers from President Viola M. Bohn of Bismarck, North Dakota. The Bulletin is well organized; it contains interesting up-to-date geographic news; and it gives evidence of the constructive work being accomplished by the ANDG.

EARL B. SHAW, *President*

EDITORIAL NOTES AND NEWS

Persons seriously considering geography's role in the Social Studies program should read the Harris Report on the teaching of history and geography in the primary schools of New Zealand. The Harris Report, which was published as an official syllabus in 1947, recommends merely the *combining* of history and geography, not their *integration*. This difference becomes more significant when it is known that the Harris Report was not issued as a syllabus in "social studies" as originally planned in 1945 but as "A Syllabus in History and Geography for Primary Schools."

American Telephone and Telegraphy say that the joining of its long lines has created a television network extending from Boston to St. Louis. Cities served by this network will include Buffalo, Milwaukee, Minneapolis, Chicago, Toledo, Kansas City and south to Richmond. Teachers may soon be using daily television series in their classroom. Johns Hopkin's University has taken the lead with its weekly television series on science. This series and others may appear on the network.

Were you listening recently when President Truman referred to Russia as "our ally on the North?" Many maps in the Pentagon show Russia north of the United States and just across the North Pole.

It is reported that the new mechanical miner, twenty-five feet in length, can dig two tons of coal a minute. In contrast, the average miner in the United States averages about five and one-half tons in a day. The new mechanical miner is in use in some mines in Pennsylvania, Illinois and Colorado.

It is reported from Turkey that American "sportsmen" are now using the latest modern equipment for duck hunting at Lake Emir. Lake Emir has been an isolated nature-made refuge in the past because the Turks considered the lake too remote and the dead ducks too hard to retrieve. The airplane breaks down isolation and so Americans are using the airplane to flush the ducks toward the on-the-ground "sportsman." The ducks then are retrieved by using rubber pneumatic life rafts from the military planes.

City officials of Stockholm, Sweden have announced international prizes for the best plans for a new traffic artery between the eastern and southern parts of the city. Plans call for "a high bridge or tunnel across the inlet to Stockholm harbor, a highway across the island of Djurgarden and an extensive system of approaches and feeder lines."

The Joliet, Illinois high school offers five geography courses. Physical Geography is required of all freshmen.

Russia and United States territories are but three miles apart in the Diomedes Islands. In fact, the International Date Line runs between the two islands, one of which belongs to Russia and the other to the United States.

It is reported from New Haven, Connecticut that Dr. J. A. Pearce of the Dominion Astrophysical Observatory, Victoria, British Columbia has found recently the third most massive system of double stars.

According to preliminary estimates, shipping totals in Brazil's leading ports of Rio de Janeiro and Santos increased by approximately sixty per cent in 1948 above 1947. Improved harbor conditions helped increase foreign and coastwide trade. Shipping at Santos was seventy-seven per cent higher in 1948 than in 1947 while at the Rio harbor the increase was fifty-two per cent.

An escaped Czech diplomat in the United States reports that Russia is trying to build a second or "eastern Ruhr" in Czechoslovakia and Poland.

Natural quartz may soon be removed from our list of strategic raw materials. Altho the mining of natural quartz is still limited the production of artificial quartz in the United States is expanding rapidly. This synthetic method of making quartz saves the United States from a possible serious shortage for military radio and radar sets.

From Salsbury, Africa comes the report that Southern Rhodesia's Wild Life Protection Society is enraged at the wholesale slaughter of game by South African hunters. The hunters come to get large quantities of biltong—strips of dried meat—for sale commercially. One farmer reported he saw a commercial hunter leave the colony with five tons of biltong.

GEOGRAPHICAL PUBLICATIONS

C. Langdon White and George T. Renner. **Human Geography: An Ecological Study of Society.** 692 pages, 175 maps and diagrams, 260 photographs. Index. Appleton-Century-Crofts, Inc., New York. 1948. $6.00.

The following statements by the authors are keys to an understanding of the organization, contest, basic concepts and illustrations of *Human Geography*. 1) "The authors of this book hold that geography is primarily human ecology, and they define it as the study of human society in relation to the earth background." 2) ". . . the beginning course in geography at the college level should acquaint the student with important activities and institutions of human society" and 3) "It is even more important that it provide him with the general environmental tools needed for geographical analysis and with a general idea of how geographical thinking is done."

There are ten parts and forty-two chapters in this book. The titles of the parts in order of appearance are (the number of chapters in each part is given in parentheses): The Nature and Scope of Geography (2); The Climatic Factor (13); The Biotic Factors (3); The Physiographic Factor (5) The Edaphic Factor (2); The Mineral Factors (4); The Hydrographic Factors (3); Spatial Factors (5); The Social Factor (2) and Geographical Theory (3).

The 175 maps and diagrams and 260 photographs are unusually good and are given ample space. Many of the pictures and maps occupy half or full pages. However, one might question the selection of a few illustrations and their captions. For example, those of us who live in the Humid Continental long summer climate of the United States realize that Figure 139 should be replaced with a tractor-drawn combine. The caption of Figure 142 is partially in error. The method of hogging-down corn as shown here is not considered by farm experts to be "one of the most successful and economical ways of fattening swine" and it is not a typical major method of fattening hogs in the Corn Belt. As a whole the illustrations are unusually good.

Geography instructors who are considering the adoption of a text for their introductory course should give this book careful consideration. In addition it will be a valuable book in personal and university libraries.

THOMAS F. BARTON

Indiana University